



## Complete Summary

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### GUIDELINE TITLE

Smoking and diabetes.

### BIBLIOGRAPHIC SOURCE(S)

Haire-Joshu D, Glasgow RE, Tibbs TL. Smoking and diabetes. Diabetes Care 2004 Jan; 27(Suppl 1):S74-5. [4 references] [PubMed](#)

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## SCOPE

### DISEASE/CONDITION(S)

- Diabetes mellitus, type 1
- Diabetes mellitus, type 2
- Tobacco addiction

### GUIDELINE CATEGORY

Counseling  
Management  
Prevention  
Treatment

### CLINICAL SPECIALTY

Endocrinology  
Family Practice  
Internal Medicine  
Psychology

### INTENDED USERS

Advanced Practice Nurses  
Allied Health Personnel  
Health Care Providers  
Nurses  
Physician Assistants  
Physicians

#### GUIDELINE OBJECTIVE(S)

To provide guidelines for inclusion of the prevention and cessation of tobacco use as an important component of state-of-the-art clinical diabetes care

#### TARGET POPULATION

Adolescents and adults with diabetes

#### INTERVENTIONS AND PRACTICES CONSIDERED

1. Assessment of smoking status and history
2. Counseling on smoking prevention and cessation, such as counseling by multiple health care providers, use of individual or group counseling strategies, and use of pharmacotherapy such as nicotine replacement therapy (gum, patch, inhaler or spray) and antidepressants (bupropion or nortriptyline)
3. Training of all diabetes health care providers in the Public Health Service guidelines regarding smoking
4. Follow-up procedures designed to assess and promote quitting status

#### MAJOR OUTCOMES CONSIDERED

- Risk of morbidity and premature death associated with the development of macrovascular complications among diabetic smokers
- Premature development of microvascular complications in diabetic smokers
- Development of type 2 diabetes mellitus among smokers in general

### METHODOLOGY

#### METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

#### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

A review of the literature on smoking in general and smoking relative to type 1 and type 2 diabetes was conducted. The literature was reviewed by establishing criteria for relevant studies, conducting computer searches, reviewing the bibliographies of key articles, compiling and reviewing full articles, constructing tables and summarizing study content and criteria, and summarizing these studies and review articles. Articles included were published in peer reviewed journals

within the last ten years in English. In a few instances, articles of particular merit within the past 15 years were presented.

#### NUMBER OF SOURCE DOCUMENTS

Over 200

#### METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

#### RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

#### METHODS USED TO ANALYZE THE EVIDENCE

Review

#### DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

The procedures to collect the evidence revealed a relatively small number of studies specific to diabetes and smoking, especially on interventions research. Therefore, in each section the guideline developer presents articles relevant to smoking in general, focusing on studies of medical patients (many of which include diabetic patients, but do not separate results for them versus other patients), and then present the more limited literature specifically related to diabetes and smoking. Together, these studies allow for the extrapolation of findings from the general literature that are pertinent to people with diabetes.

#### METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

#### DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

#### RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

American Diabetes Association's evidence grading system for clinical practice recommendations:

A

Clear evidence from well-conducted, generalizable, randomized controlled trials that are adequately powered, including:

- Evidence from a well-conducted multicenter trial
- Evidence from a meta-analysis that incorporated quality ratings in the analysis
- Compelling non-experimental evidence, i.e., "all or none" rule developed by the Center for Evidence Based Medicine at Oxford\*

Supportive evidence from well-conducted randomized, controlled trials that are adequately powered, including:

- Evidence from a well-conducted trial at one or more institutions
- Evidence from a meta-analysis that incorporated quality ratings in the analysis

\*Either all patients died before therapy and at least some survived with therapy, or some patients died without therapy and none died with therapy. Example: use of insulin in the treatment of diabetic ketoacidosis.

## B

Supportive evidence from well-conducted cohort studies, including:

- Evidence from a well-conducted prospective cohort study or registry
- Evidence from a well-conducted meta-analysis of cohort studies

Supportive evidence from a well-conducted case-control study

## C

Supportive evidence from poorly controlled or uncontrolled studies:

- Evidence from randomized clinical trials with one or more major or three or more minor methodological flaws that could invalidate the results
- Evidence from observational studies with high potential for bias (such as case series with comparison with historical controls)
- Evidence from case series or case reports

Conflicting evidence with the weight of evidence supporting the recommendation

## E

Expert consensus or clinical experience

## COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

## METHOD OF GUIDELINE VALIDATION

Peer Review

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The paper was peer-reviewed, modified, and approved by the American Diabetes Association's Professional Practice Committee and the Executive Committee.

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

The evidence grading system (A through C, E) is defined at the end of the "Major Recommendations" field.

Health care providers engaged in the care and management of individuals with diabetes should follow the approach summarized below (see Table 1 in the original guideline document).

#### Recommendations Regarding Diabetes and Smoking (E)

##### Assessment of smoking status and history

- Systematic documentation of a history of tobacco use must be obtained from all adolescent and adult individuals with diabetes.

##### Counseling on smoking prevention and cessation

- All health care providers should advise individuals with diabetes not to initiate smoking. This advice should be consistently repeated to prevent smoking and other tobacco use among children and adolescents with diabetes under age 21 years.
- Among smokers, cessation counseling must be completed as a routine component of diabetes care.
- Every smoker should be urged to quit in a clear, strong, and personalized manner that describes the added risks of smoking and diabetes.
- Every diabetic smoker should be asked if he or she is willing to quit at this time. If no, initiate brief and motivational discussion regarding the need to stop using tobacco, the risks of continued use, and encouragement to quit as well as support when ready. If yes, assess preference for and initiate either minimal, brief, or intensive cessation counseling and offer pharmacological supplements as appropriate.

##### Effective systems for delivery of smoking cessation:

- Training of all diabetes health care providers in the Public Health Service guidelines regarding smoking should be implemented.
- Follow-up procedures designed to assess and promote quitting status must be arranged for all diabetic smokers.

##### Primary Areas to Address

Ask

The routine assessment of current tobacco use is a critical first step toward encouraging cessation. The nurse or medical technician who prepares patients for their visit should do this. Nonsmoking adults are unlikely to start, so a sticker on their charts can prevent having to ask them at each visit.

#### Assess

In those who are current tobacco users, it is important to assess their interest in quitting by asking if they are ready to quit in the next 30 days (preparation phase) or in the next 6 months (contemplation phase). Knowledge of this readiness stage allows tailoring of the intervention to each individual (Haire-Joshu, Glasgow, & Tibbs, 1999).

#### Advise

Health care providers should advise all smokers with diabetes how important it is for them to quit. There is a dose-response relationship between type, intensity, and duration of treatment and smoking cessation. In general, minimal interventions are defined as <3 minutes of counseling, whereas brief interventions are defined as 3 to 10 minutes of counseling (Fiore, Bailey, & Cohen, 2000). While more intense interventions are most effective in producing long-term abstinence from tobacco, few smokers are willing to participate (Haire-Joshu, Glasgow, & Tibbs, 1999; U.S. Preventive Services Task Force, 1996; Fiore, Bailey, & Cohen, 2000).

#### Assist

The keys to assistance are helping the smoker to set a quit date, providing information about how to prepare for that date, and offering counseling and/or medication assistance to those who are interested. Several pharmacological agents increase smoking cessation rates when used in conjunction with behavioral interventions. These include 4 to 6 weeks of nicotine replacement therapy, bupropion (150 mg orally daily or twice a day) or nortriptyline (25 to 75 mg orally at bedtime).

#### Arrange

In addition to providing support and pharmacological assistance to smokers who are ready to quit, health care providers should also make arrangements for a follow-up phone call soon after the quit date. This can be done by clinic staff. Smokers receiving pharmacotherapy should also have a return office visit arranged.

#### Organize your clinic

Effective systems for implementing these guidelines should be incorporated into the routine practice of diabetes care. Recording smoking status as a vital sign increases identification of current tobacco users. Organized office information systems and delegation of cessation support and follow-up to trained office staff will greatly increase tobacco cessation rates.

Advocacy for tobacco control through public policy initiatives is also an appropriate and potentially effective way to reduce the burden of excess morbidity and mortality that tobacco use confers on those with diabetes.

### Definitions:

American Diabetes Association's evidence grading system for clinical practice recommendations:

#### A

Clear evidence from well-conducted, generalizable, randomized controlled trials that are adequately powered, including:

- Evidence from a well-conducted multicenter trial
- Evidence from a meta-analysis that incorporated quality ratings in the analysis
- Compelling non-experimental evidence, i.e., "all or none" rule developed by the Center for Evidence Based Medicine at Oxford\*

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- Evidence from a well-conducted trial at one or more institutions
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Supportive evidence from well-conducted cohort studies, including:

- Evidence from a well-conducted prospective cohort study or registry
- Evidence from a well-conducted meta-analysis of cohort studies

Supportive evidence from a well-conducted case-control study

#### C

Supportive evidence from poorly controlled or uncontrolled studies:

- Evidence from randomized clinical trials with one or more major or three or more minor methodological flaws that could invalidate the results
- Evidence from observational studies with high potential for bias (such as case series with comparison with historical controls)
- Evidence from case series or case reports

Conflicting evidence with the weight of evidence supporting the recommendation

E

Expert consensus or clinical experience

CLINICAL ALGORITHM(S)

None provided

## EVIDENCE SUPPORTING THE RECOMMENDATIONS

### REFERENCES SUPPORTING THE RECOMMENDATIONS

[References open in a new window](#)

### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

These guidelines are based on the body of evidence summarized in the American Diabetes Association's technical review on smoking and diabetes (Haire-Joshu D, Glasgow RE, Tibbs TL: Smoking and diabetes [Technical Review]. Diabetes Care 1999 Nov; 22[11]: 1887-98). Specifically, evidence from epidemiological, case-control, and cohort studies supports the causal link between cigarette smoking and health risks. Effectiveness of smoking cessation counseling is supported by a number of large randomized controlled trials. This work, combined with the more limited diabetes-specific studies, supports the recommendations for smoking cessation counseling.

## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

Smoking cessation is one of the few interventions that can safely and cost-effectively be recommended for all patients and has been identified as a gold standard against which other preventive behaviors should be evaluated. A number of large randomized clinical trials have demonstrated the efficacy and cost-effectiveness of certain forms of provider and behavioral counseling in changing smoking behavior of primary care and hospitalized patients. This work, combined with the more limited studies specific to individuals with diabetes, suggests that smoking cessation counseling is effective in reducing tobacco use in this high-risk group.

### POTENTIAL HARMS

- Postcessation weight gain may be an impediment to smoking cessation, especially among women or other people concerned with weight management.
- The presence of comorbid psychiatric conditions such as depression is associated with prevalence of smoking and heightened relapse after quitting.



## QUALIFYING STATEMENTS

### QUALIFYING STATEMENTS

Evidence is only one component of clinical decision-making. Clinicians care for patients, not populations; guidelines must always be interpreted with the needs of the individual patient in mind. Individual circumstances, such as comorbid and coexisting diseases, age, education, disability, and above all, patient's values and preferences, must also be considered and may lead to different treatment targets and strategies. Also, conventional evidence hierarchies, such as the one adapted by the American Diabetes Association, may miss some nuances that are important in diabetes care. For example, while there is excellent evidence from clinical trials supporting the importance of achieving glycemic control, the optimal way to achieve this result is less clear. It is difficult to assess each component of such a complex intervention.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

#### Smoking cessation delivery systems

Despite demonstrated efficacy and cost-effectiveness, smoking cessation has not received the priority it deserves from health care providers. Only about half of smokers with diabetes have been advised to quit smoking by their health care providers. One important means of assuring systematic advice regarding the prevention and cessation of tobacco use is through the implementation of smoking cessation delivery systems in office practices and hospitals. These systems require organizational changes in clinics and hospitals to systematically identify all tobacco users at every visit, so that evaluation of smoking status becomes a routine vital sign. After tobacco users have been identified by staff, clinicians should provide a brief assessment of interest in quitting, advise those without current interest how important it is to quit, and connect those prepared to quit with those who can provide further information, assistance, and follow-up.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Living with Illness  
Staying Healthy

### IOM DOMAIN

Effectiveness  
Patient-centeredness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

Haire-Joshu D, Glasgow RE, Tibbs TL. Smoking and diabetes. Diabetes Care 2004 Jan; 27(Suppl 1): S74-5. [4 references] [PubMed](#)

### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

1999 Oct (revised 2004 Jan)

### GUIDELINE DEVELOPER(S)

American Diabetes Association - Professional Association

### SOURCE(S) OF FUNDING

The American Diabetes Association received an educational grant from LifeScan, Inc., a Johnson and Johnson Company, to support publication of the 2004 Diabetes Care Supplement.

### GUIDELINE COMMITTEE

Professional Practice Committee

### COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Authors of Position Statement, Initial Statement: Debra Haire-Joshu, PhD; Russell E. Glasgow, PhD; Tiffany L. Tibbs, MA

### FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

### GUIDELINE STATUS

This is the current release of the guideline.

This release updates a previously published guideline: Haire-Joshu D, Glasgow RE, Tibbs TL. Smoking and diabetes. Diabetes Care 2003 Jan; 26(Suppl 1): S89-90.

### GUIDELINE AVAILABILITY

Electronic copies: Available from the [American Diabetes Association \(ADA\) Web Site](#).

Print copies: Available from American Diabetes Association, 1701 North Beauregard Street, Alexandria, VA 22311.

#### AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Haire-Joshu D, Glasgow RE, Tibbs TL: Smoking and diabetes (Technical Review). Diabetes Care 1999 Nov; 22(11):1887-98.

Print copies: Available from the American Diabetes Association (ADA), 1701 North Beauregard Street, Alexandria, VA 22311.

#### PATIENT RESOURCES

None available

#### NGC STATUS

This summary was completed by ECRI on April 2, 2001. The information was verified by the guideline developer on August 24, 2001. This summary was updated by ECRI on January 29, 2002, April 21, 2003, and May 26, 2004.

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